

I CLAIM:

1. A retention apparatus for stabilizing laterally spaced first and second form members defining a cavity for receiving concrete therein and arranged on a supporting surface such as the ground to define said cavity prior to and during the pouring of the concrete and for supporting the wet concrete contained in said cavity for an indeterminate interval following the pouring of the wet concrete, said form members having inside surfaces defining said cavity and confining said concrete and outside surfaces, said retention apparatus comprising:

a) a first elongated metallic stake having a head at one end and a point at the opposite end and adapted to be embedded over an indeterminate length in said supporting surface with an intermediate portion of said elongated stake abutting the outside surface of a first associated form member;

b) a second elongated metallic stake having a head at one end and a point at the opposite end and adapted to be embedded over an indeterminate length in said supporting surface on the opposite side of said cavity from said first elongated metallic stake, said second elongated metallic stake having an intermediate portion abutting the outside surface of said second form member;

c) a first set of a multiplicity of through-bores in each of said first and second elongated stakes, said through-bores of said first set in each elongated stake being spaced along said elongated stake and extending through said stake perpendicular to the outside surface of the associated form board abutted by the intermediate portion of each elongated stake;

d) a second set of a multiplicity of through-bores in each of said first and second elongated stakes, said through-bores of said second set being spaced along said

elongated stake intermediate the through-bores of said first set of multiple through-bores and extending parallel to the outside surface of the associated form member abutted by the intermediate portion of each elongated stake and extending perpendicular to the associated first set of multiple through-bores;

e) a nail for driving through each of a selected number of through-bores of said first set of multiple through-bores in each of said first and second elongated stakes and into the associated abutting form member to detachably attach said form members to the associated abutting stakes;

f) a nail slidably and detachably disposed in a selected one of said second set of a multiplicity of through-bores in each of said first and second elongated stakes so that the nail in each stake lies parallel to the nail in the opposite stake and parallel to the outside surface of the associated form member, each nail in each stake including projecting end portions thereof that extend in opposite directions on opposite sides of said elongated stake in which it is detachably supported; and

g) means extending transversely across and above said form members and detachably engaged at opposite ends to said projecting end portions of said nails that extend in opposite directions on opposite sides of said stakes and which nails are slidably and detachably disposed in said elongated stakes on opposite sides of said form members.

2. The retention apparatus according to Claim 1, wherein said elongated stakes are transversely parallel to one another and abut the outside surfaces of confronting form members.

3. The retention apparatus according to Claim 1, wherein said stakes may range in length from approximately 1½ feet to approximately 4 feet.

4. The retention apparatus according to Claim 1, wherein each set of said through-bores in said elongated stakes are spaced approximately two inches apart.

5. The retention apparatus according to Claim 1, wherein each set of said through-bores in said elongated stakes may range in diameter from approximately 1/8 inch to approximately 3/16 inch.

6. The retention apparatus according to Claim 1, wherein said elongated stakes are approximately 3/4 inch in diameter.

7. The retention apparatus according to Claim 1, wherein one end of each said elongated stake is formed in a truncated conical configuration to form a head larger in diameter than the stake and the opposite end of the stake is formed in a conical configuration the apex of which forms the pointed end of the elongated stake.

8. The retention apparatus according to Claim 1, wherein said nails that extend through said first and second sets of through-bores in said elongated stakes are gauged in diameter to slidably fit snugly in the associated through-bores.

9. The retention apparatus according to Claim 1, wherein said means extending transversely across and above said form members and detachably engaged at opposite ends to said projecting end portions of said nails that extend parallel to said form members comprises a generally flat elongated plate ranging in width from approximately 1½ inches to 2 inches and having at each opposite end a pair of perpendicularly extending laterally spaced anchor members adapted to detachably engage the projecting end portions of said nails that extend parallel to said form members.

10. The retention apparatus according to Claim 9, wherein each said pair of anchor members is integrally connected to said generally flat elongated plate and are spaced apart at least the diameter of the associated elongated stake.

11. The retention apparatus according to Claim 9, wherein each said pair of anchor members is integrally connected to said generally flat elongated plate by integral reentrant portions that wrap partially about said projecting end portions of said nail slidably supported in said associated elongated stake whereby to prevent inadvertent detachment of said flat elongated plate from said associated elongated stake.

12. The retention apparatus according to Claim 9, wherein said generally flat elongated plate is formed in two parts with proximate end portions of the two parts overlapping intermediate the opposite distal ends of the elongated plate, aligned bores formed in said proximate end portions spaced apart longitudinally, and a nut and bolt assembly projecting through at least one of said aligned bores to retain the elongated plate at a selected length.

13. The retention apparatus according to Claim 12, wherein the confronting surfaces of said proximate end portions are provided with interengaging grooves and ribs to retain the elongated plate at a selected length.

14. As an article of manufacture, a force retention plate for use to prevent spreading of form members containing wet concrete, said force retention plate comprising a generally flat elongated plate having at each opposite end a pair of perpendicularly extending laterally spaced anchor members adapted to be detachably engaged to a stake abutting the associated form members.

15. The article of manufacture according to Claim 14, wherein said anchor members are integrally connected to said generally flat elongated plate.

16. The article of manufacture according to Claim 15, wherein each said pair of anchor members is integrally connected to said generally flat elongated plate by integral reentrant portions that provide arcuate recesses detachably engageable to stabilize the position of said generally flat elongated plate.

17. The article of manufacture according to Claim 16, wherein said generally flat elongated plate is formed in two parts with proximate end portions of the two parts overlapping intermediate the opposite distal ends of the elongated plate, aligned bores formed in said proximate end portions spaced apart longitudinally, and a nut and bolt assembly projecting through at least one of said aligned bores to retain the proximate end portions of the elongated plate clamped together.

18. The article of manufacture according to Claim 17, wherein the confronting surfaces of said proximate end portions are provided with interengaging grooves and ribs to retain the elongated plate at a selected length when clamped by said nut and bolt assembly.

19. In combination, a laterally spaced pair of elongated stakes with each stake having a multiplicity of through-bores extending diametrically therethrough at spaced intervals; nails extending through corresponding through-bores of the spaced pair of stakes to provide projecting end portions of said nails on opposite sides of said stakes; and a retention plate extending transversely between said pair of laterally spaced elongated stakes and detachably engaging the projecting end portions of said nails on opposite sides of said stakes and effective to restrain said stakes against a force tending to separate them.

20. The combination according to Claim 19, wherein said retention plate is provided at each opposite end with a pair of anchor members integrally connected to said retention plate by integral reentrant portions that wrap partially about said projecting end portions of said nails in said laterally spaced stakes to prevent inadvertent detachment of said retention plate from said associated elongated stakes.